

E7  
concl'd

amino acid sequence indicates Cysteine residues forming disulfide bonds in the Ig-like type-C2 domains. The bold NXS and NXT in the amino acid sequence correspond to potential N-glycosylation sites.

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**IN THE ABSTRACT:**

Please amend the Abstract to read as follows:

E1

In accordance with the present invention, there are provided Down Syndrome-Cell Adhesion Molecule (DS-CAM) proteins. Nucleic acid sequences encoding such proteins and assays employing same are also disclosed. The invention DS-CAM proteins can be employed in a variety of ways, for example, for the production of anti-DS-CAM antibodies thereto, in therapeutic compositions and methods employing such proteins and/or antibodies. DS-CAM proteins are also useful in bioassays to identify agonists and antagonists thereto.

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**IN THE CLAIMS:**

A marked up version of the claims showing the amendments is attached hereto as Exhibit A. Matter in the claims that has been deleted is indicated by brackets and matter that has been added is indicated by underlining.

Please amend claims 32-35, 38, 40, 41, 43, and 44 to read as follows:

E2

32 (amended). An isolated cell containing the nucleic acid of claim 1 or the vector of claim 31.

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E3

33 (twice amended). An isolated nucleic acid comprising the nucleotide sequence of a complementary DNA which hybridizes under high stringency conditions to substantially the entire complement of a second nucleic acid encoding amino acids 1 to 1473 of SEQ ID NO:11, wherein said high stringency conditions comprise hybridizing in 5X Denhardt's solution, 5X SSPE and 0.2% sodium dodecylsulfate at 42°C, followed by washing in 0.1X SSPE and 0.1% Sodium dodecylsulfate at 65°C.

34 (twice amended). An isolated nucleic acid comprising the nucleotide sequence of a complementary DNA that hybridizes under high stringency conditions to substantially the entire complement of a second nucleic acid consisting of the nucleotide sequence of a

E3 fragment of SEQ ID NO:1 that encodes amino acids 24 to 126 of SEQ ID NO:2 and that hybridizes under high stringency conditions to substantially the entire complement of a third nucleic acid consisting of the nucleotide sequence of a fragment of SEQ ID NO:1 that encodes amino acids 1087 to 1185 of SEQ ID NO:2, wherein said high stringency conditions comprise hybridizing in 5X Denhardt's solution, 5X SSPE and 0.2% sodium dodecylsulfate at 42°C, followed by washing in 0.1X SSPE and 0.1% Sodium dodecylsulfate at 65°C.

35 (twice amended). An isolated nucleic acid comprising the nucleotide sequence of a complementary DNA which hybridizes under high stringency conditions to substantially the entire complement of a second nucleic acid consisting of the nucleotide sequence set forth in SEQ ID NO:7 or SEQ ID NO:8, wherein said high stringency conditions comprise hybridizing in 5X Denhardt's solution, 5X SSPE and 0.2% sodium dodecylsulfate at 42°C, followed by washing in 0.1X SSPE and 0.1% Sodium dodecylsulfate at 65°C.

E4 38 (twice amended). An isolated nucleic acid comprising the nucleotide sequence of a complementary DNA which encodes a polypeptide comprising at least one of the amino acid sequences selected from the group consisting of: amino acids 1-23, 24-126, 127-225, 226-316, 317-409, 410-506, 507-603, 604-697, 698-792, 793-887, 888-983, 984-1086, 1087-1185, 1186-1281, 1282-1375, 1376-1471, 1472-1594, 1595-1616, and 1617-1910 of SEQ ID NO:2.

40 (amended). An isolated cell containing the nucleic acid of claim 38 or the vector of claim 39.

E5 41 (amended). An isolated nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:1, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, nucleotides 453-6185 of SEQ ID NO:1 or nucleotides 453-5168 of SEQ ID NO:10.

E6 43 (amended). An isolated cell containing the nucleic acid of claim 41 or the vector of claim 42.

E6 44(amended). An oligonucleotide comprising at least 15 nucleotides of (a) a nucleotide sequence that encodes amino acids 1 to 1473 of SEQ ID NO:11; (b) the nucleotide sequence set forth in SEQ ID NO. 7 or 8; or (c) the complement of the nucleotide sequence of (a) or (b).

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#### **REMARKS**

Claims 32-35, 38, 40, 41, 43, and 44 have been amended. A marked version of the claims indicating the changes to the claims is attached hereto as Exhibit A. A copy of all the claims, as amended, is attached hereto as Exhibit B. No new matter is included. Support for the amendment can be found in the specification as filed: claims 32, 40 and 43 at page 27, lines 28-32; claims 33-35 at page 17, lines 19-20 ("substantially the entire sequence"); claims 33 and 44 in Figure 3 and SEQ ID NO: 11 (amino acid 1473); claim 34 at page 17, line 33 ("fragments"); and claims 34 and 38 in Figure 3 ("amino acids 1086,1087").

The Abstract has been amended as per the Examiner's suggestion, and formal drawings are submitted herewith. The specification has been amended to reflect a change in the labeling of Figure 2. No new matter is included.

Claims 1 and 31-49 are under consideration in the present application. Applicant acknowledges the Examiner's indication that claims 1 and 31 are deemed allowable.

#### **1. The Objection of Claim 47 Is Obviated**

Claim 47 is objected to under 37 C.F.R. § 1.75(c) as being of improper dependent form. Applicant respectfully traverse and points that although the nucleic acids of claims 33, 34, 35 and 38 comprise the nucleotide sequences of complementary DNAs (which lack introns), they are not necessarily complementary DNA. As described in the specification (see page 13, lines 1-8), the nucleic acids can be a RNA molecule. Thus, Applicant respectfully requests withdrawal of the objection.

#### **2. The Rejections Under 35 U.S.C. § 112, Second Paragraph Are Obviated**

Claims 32, 40, 43 and 48 are rejected under 35 U.S.C. 112, second paragraph, for indefiniteness.